A METHOD FOR IMPROVING MULTIPATH SEARCHER SPEED

ABSTRACT OF THE DISCLOSURE

A method of improving searcher speed of a multipath signal searcher (204) used in CDMA wireless communication systems for retrieving a multipath signal comprising a mobile communication signal and multipath replicas is provided. Search paths (214) of the multipath signal searcher are grouped together and assigned by an offset assignment/timing block (210) to search a time offset within a search window. The search paths may be operated in serial or parallel operation mode. In either mode, the search paths are individually assigned to search over one of a group of time offsets that are distributed across the search window evenly. In serial mode, for example, the search paths may be assigned to search only even time offsets or odd time offsets in one search time slot, such that the multipath signal searcher need not search every time offset within the search window to detect the multipath signals. In the following time slots, the odd or even time offsets may be searched. In parallel mode, the search paths are not only grouped to search only a given set of time offsets within the search window, but different groups of search paths are offset to commence searching at different times than other groups of search paths to more quickly update a finger manager and more quickly retrieve the mobile communication signal. In parallel configuration, one group of search paths completes searching for multipath signals while another group of search paths continues searching for multipath signals. In the search time slots, the search paths may be grouped to search odd or even time offsets.